

GOLANKIEWICZ, Krzysztof

Carbethoxylation of some derivatives of lapidine and quinaldine.
Rocz chemii 36 no.4:625-630 '62.

1. Department of Organic Chemistry, Adam Mickiewicz University,
Poznan.

GOLANKIEWICZ, Krzysztof

Reduction of some quinoline derivatives substituted in positions
2 or 4 with lithium aluminum hydride. Mat chemia no. 7:3-14 '63.

Reaction of hydrazine with some lepidine and quinaldine derivatives.
Ibid.:15-27.

1. Katedra Chemii Organicznej, Uniwersytet im. Adama Mickiewicza,
Poznan.

BRATER-WIENIOWSKA, Maria H.; WILKOWSKI, M.; LITWIN, T.;
GOLACKIEWICZ, E.; KOWALSKI, S.; BOGACH, M.; LITWIN, Maria

Synthesis and degradation of α -ketone in organic chemistry.
Acta Biochim. Pol. 1981, 28, 111-112.

1. Institute of Biochemistry and Biophysics, Polish Academy of
Science, Warsaw; Department of Organic Chemistry, A. Mickiewicz
University, Poznan; Institute of Plant Genetics, Polish Academy
of Science, Poznan.

Andesite and its utilization in the chemical industry.
H. Bichart, J. Golanki, and K. Goczayes. *Prace Inst.
Chem.* 9, 573-574 (1955) (English summary).—Tech. and
phys. properties, especially resistance to acids and to high
temp., make possible its application to replace deficient
construction materials in building chem. app. for corrosive
acids and gases. The results of expts. are discussed.
Kutic, L. Wozniak

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24,1500

S/C58/62/000/004/035/160
A058/A101

AUTHORS: Orlov, V. V., Golashvili, T. V., Baskin, A. I.

TITLE: Block resonance absorption of neutrons

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 62, abstract 42467
(V sb. "Neytron. fizika". Moscow, Gosatomizdat, 1961, 116 - 124)

TEXT: The authors derived a general formula for the effective resonance integral I_{er} which applies to small as well as large blocks and which takes into account scattering and moderation in the block, as well as the possibility of neutron flight through the block. It was assumed that the mean energy loss incident to neutron collision with nuclei in the block is very much greater than resonance width. The formula was derived for single resonance. In the case of small blocks it is reduced to the Gurevich-Pomeranchuk formula, and in the case of large blocks, to the Wigner formula. The authors give an expression for I_{er} in the case of the Breit-Wigner form of resonance and in particular, for strong resonance. The temperature dependence of volume and surface terms was determined.

[Abstracter's note: Complete translation]

B. Levin

Card 1/1

GOLANSKI, A.

Value of determination of reduction power of blood serum in malignant neoplasms in diagnosis and determination of dynamics of neoplasms. Polski przegl. chir. 25 no.7:609-613 July 1953. (CML 25:1)

1. Of the First Surgical Clinic of Krakow Medical Academy.

GOLANSKI, Antoni

Determination of reduction properties of blood serum in diagnosis
and evaluation of dynamics of neoplasms. Polski tygod. lek. 9
no.28:865-870 12 July 54.

1. Z I Kliniki Chirurgicznej A.M. w Krakowie, dyr. prof. dr med.
J.Bogusz i z Oddziału Chirurgicznego Szpitala miejskiego im.
E.Biernackiego w Krakowie, ord. dr med. Tadeusz Guschlbauer.
 (NEOPLASMS, blood in,
 reduction properties)
 (BLOOD,
 reduction in neoplasms)

GOLANSKI, C.

"The Lodz Aviation Club is Fighting for the Challenge Flag of the Main Administration of the Polish Youth League." Aerokluby. P. 16.
(SKRZYDLAT POLSKA, Vol. 10, No. 43, Oct. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4,
No. 1, Jan. 1955 Uncl.

GOLANSKI, H.

"From the Plan of the Ministry of Higher Education for the Year 1954." p. 2,
(PROBLEMY, Vol. 10, no. 1, Jan. 1954, Warszawa, Poland)

SC: Monthly Lists of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

GOLANSKY, YE

Development of training centers for engineering cadres in People's Poland, p. 1.
(PRZEGLAD ELEKTROTECHNICZNY, Warszawa, Vol. 31, no. 1, Jan. 1955.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jun. 1955,
Uncl.

GOLANSKI, Henryk

Education of professional cadres and the national economy.
Przegl techn 81 no.16:9-10 Ap '60.

1. Minister Szkolnictwa Wyzszego, Warszawa

GOLANSKI, Henryk

Obstacles in the development of a young scientific team.
Nauka Pol 9 no.4:47-51 O-D '61.

1. Minister Szkolnictwa Wysszego.

GOLANSKI, H.

The creation of a system of bringing graduate engineers professionally occupied up-to-date on scientific achievements has been an urgent problem. Przegl techn no.10:4,5 11 Mr '62.

1. Minister Szkolnictwa Wyzszego, Warszawa.

Guerra, 1997, p. 10.

[illegible][illegible]

POLAND
GOLANSKI, Kazimierz, Docent, Dr. [Affiliation not given]

"Occurrence of Diseases in Breeding Silkworms in Poland
During 1956-1960."

Warsaw-Lublin, Prace weterynaryjne, Vol 19, No 4, Apr 63,
pp 188-190.

Abstract: Author reviews diseases prevalent among silkworms and analyzes the results of a statistical study of the records (incomplete due to loss or damage) for 1956-1960 of breeders' insurance against losses, compulsory in Poland since 1956. The tabulated results reveal that the overall extent of losses was less than ten percent, which is good by world standards, and that insurance payments exceeded paid-in premium, since losses were more extensive for large-scale breeders than for small-scale ones. There are no references.

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POLAND

POLAKSKI, Kazimierz, Department of Silkworm Rearing; (Zaklad Hodowli Jedwabnikow), Zootechnical Institute (Instytut Zootechniczny) in Warsaw.

"Polyedrosis, its etiology and incidence in rearing; Silk-worms in Poland, 1955-1960."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 14, No 2, Jan 62, pp 217-222.

Abstract: Following their prior report on the general incidence of polyedrosis in silkworms in Poland for 1955-1960, these authors continue to etiology and environmental factors of this disease, give a comparative table of the differences between the nuclear and cytoplasmic types, and describe the various forms of the nuclear type, the only one encountered in Poland. The authors include a tabulation of incidence in Poland by farms and by vojevodztwas, remarking on the difficulty of control, which, in view the absence of therapeutic means, has to rely entirely on prophylactic disinfection and hygiene. The 6 references comprise one Soviet, about 5 each Polish and German, and the others to Western sources.

POLAND

GOLANSKI, Kazimierz; Department of Silkworm Breeding, Zootechnical Institute (Makl. Laskow. Instytut Zootechniki,) Krakow.

"Effect of Diseases of Mulberry Silkworm (*Bombyx mori* L.) on Cocoon Productivity".

Lublin, Medycyna weterynaryjna, Vol 21, No 10, Oct 65; pp 592-596.

Abstract: Review mainly of published Polish data on incidence and severity of various diseases caused by viruses, bacteria and fungi; tables, graphs and maps showing the effect of diseases and production of silk in various regions of Poland during 1956 and 1960. Table, 2 graphs, 2 maps; 2 Sov. and 41 Western references (10 unpublished) and 12 Western references.

GOLANSKIY, M.

In the Bureau of the Department of Economics, Philosophy and law
of the U.S.S.R. Academy of Sciences. Vol. Ekon. no. 12:164-165 D
'59. (MIRA 12:12)

(Ural Mountain region--Economics--Study and teaching)

KNORR, KLAUS; LITVIN, Z.V. [translator]; GOLANSKIY, M.M., kand.ekonom.nauk
[translator]; KAMUSHER, K.G. [translator]; KAZAKOV, V.M. [translator];
GANTMAN, V.I., kand.yurid.nauk, red.; ZHEREBTSOV, L.P., red.;
KONOVALOVA, Ye.K., tekhn.red.

[The war potential of nations] Voennyi potentsial gosudarstv. Moskva,
Voen.izd-vo M-va obor.SSSR, 1960. 392 p. (MIRA 13:10)
(Armaments) (War---Economic aspects)

GOLANSKIY, M.

Effect of technological progress on capitalist reproduction of
the means of production. Vop.ekon. no.9:128-135 S '61.

(MIRA 14:8)

(United States--Technology)
(United States--Capitalism)

SOLODOVNIKOV, V.G., glav. red.; KHEMELASHVILI, V.N., zam. glav. red.;
GOLANSKIY, E.M., red.; DIKANSKIY, M.G., red.; KALUSHEV, K.G.,
red.; LITVIN, Z.V., red.; FITSIL, L.A., red.; CHEBYSHEV, P.M.,
red.; SHAFIRO, A.I., red.; SHEVCHENKO, G.N., tekhn. red.;
GUSEVA, A.P., tekhn. red.

[International economic organizations; handbook] Mezhdunarod-
nye ekonomicheskie organizatsii; spravochnik. 2., dop. izd.
Moskva, Izd-vo Akad. nauk SSSR, 1962. 1108 p. (MIRA 15:2)

1. Akaderiya nauk SSSR. Institut mirovoy ekonomiki i mezhduna-
rodnykh otnosheniy.

(International agencies--Handbooks, manuals, etc.)

S/119/60/000/C 0/002/01.17
BC*2/BC63

AUTHORS Berrshsteyn, I. M. Engineer, Golant, A. I. Engineer
TITLE Generation of a Control Pulse According to the First
Derivative With the Help of the Mass produced Controller
MP-130 (IR-130)

PERIODICAL Priborostroyeniye, 1960, No. 10, pp. 4

TEXT. At present, PI controllers of the MP-130 (IR-130) type are used in industry to control processes with different dynamic properties. However, if a particularly high quality of control is required, these controllers must be replaced by others. The authors note that these controllers allow to attain a higher quality by generating control pulses according to the first derivative. The principle of the generation of such pulses is explained, and the following is shown. If the integral member of the controller is changed into a proportional one, the voltage at the output of the thermal bridge becomes proportional to the current in the corresponding control circuit and, thus, also to its input.

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Generation of a Control Pulse According to S/119/60/000/0-0/002/0-1 X
the First Derivative With the Help of the B012/B063
Mass-produced Controller HP-130 (IR-130)

March 1959. It guarantees a sufficient control quality and is very
reliable. The present work was carried out by the author jointly with
N I Kabachkov There are 6 figures and 2 Soviet references

L 25276-65 EWT(d)/EWP(1) Po-L/Pg-L/Pg-L/Fk-L/Pl-L IJP(d) HC
ACCESSION NR: AP4045351 S/O103/64/025/009/1384/1389

AUTHOR: Golant, A. I. (Moscow); Dudnikov, Ye. Ye. (Moscow) 40
B

TITLE: Method for determining the parameters of a linear system from a h-f segment of its experimental amplitude-phase characteristic

SOURCE: Avtomatika i telemekhanika, v. 25, no. 9, 1964, 1384-1389

TOPIC TAGS: automatic control, industrial automation

ABSTRACT: This is a continuation of an earlier work by Ye. Ye. Dudnikov (Avt. i telemekhanika, v. 20, no. 5, 1959). Some peculiarities of calculating the transfer function coefficients from the amplitude-phase characteristic at frequencies approaching infinity are considered. Formulas for determining the coefficients from the reciprocal amplitude-phase characteristic are given. Their use is illustrated by an example of an industrial plant intended for fluidized-bed firing of molybdenite concentrates. The characteristics of a closed-loop control

L 25276-65

ACCESSION NR: AP4045351

system of the plant were measured, at five frequencies, in the "quantity of charged concentrate-bed temperature" channel. The delay involved was determined from acceleration curves of the plant and was excluded from the characteristics. Orig. art. has: 4 figures, 20 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 13Jun63

SUB CODE: IE

NO REF SOV: 003

ENCL: 00

OTHER: 000

GOLANT, B.Ya., doktor tekhn. nauk; PETROV, N.A., kand. tekhn. nauk.

Increasing the stability of fats and fat products. Masl.-zhir. prom.
24 no.12:14-16 '58. (MIRA 11:12)
(Oils and fats) (Antioxidants)

GOLANT, B.Ya., doktor tekhn.nauk; PETROV, N.A., kand.tekhn.nauk

Partial esters of fatty acids and polyatomic alcohols as
emulsifiers; bibliographic survey. Masl.-zhir.prom. 25
no.2:16-19 '59. (MIRA 12:2)

(Acids, Fatty) (Alcohols) (Emulsifying agents)

GOLANT, B.Ya., doktor tekhn.nauk; PETROV, N.A., kand.tekhn.nauk

Partial esters of fatty acids and polyatomic alcohols as emul-
sifying agents. Masl.-zhir.prom. 25 no.3:15-18 '59.

(Emulayfying agents) (Acids, Fatty) (Alcohols) (MIRA 12:4)

GOLANT, B.Ya.; MANVELOVA, Ye.S., tekhn. red.

[Production of shortenings and their use in the manufacture of pastry] Poluchenie shortingov i primeneniye ikh pri proizvodstve konditerskikh izdelii. Moskva, 1962. 28 p.

(MIRA 10:4)

1. Moscow. Tsentral'nyy institut nauchno-tekhnicheskoy informatsii pishchevoy promyshlennosti.
(Oils and fats, Edible) (Pastry)

GOLANT, B.Ya., doktor tekhn.nauk; GOSTAPOV, N.I., inzh.

Processing of oilseeds and obtaining from them protein-containing feed
and edible products and oils; literary review. Masl.-zhir.prom. 29 no.2:
43-46 F '63. (MIRA 16:4)

(Cottonseed products)

(Protein)

GOLANT, Boris Yakovlevich; KOVALEVSKAYA, A.I., ed.

[Enrichment of food products with proteins of vegetable
origin with a high content of amino acids] (obogatichenie
pishchevyykh produktov proteinami rastitel'nogo proiskho-
zhdeniya s vysokim soderzhaniei nezamennykh aminokisl').
Moskva, Izd-vo "Pishchevaia promyshlennost'", 1962. 96 p.
(MIRA 17:6)

GOLANT, B.Ya., doktor tekhn.nauk

New data on the processing of soybeans. Masl.-zhir.prom. 30 no.2:
40:44 8 '64. (MIRA 17:3)

GOLANT, D.B.

Differential diagnosis of atherosclerotic feeble-mindedness in
Alzheimer's disease. Trudy Gos. nauchno-issl. inst. psikh. 22:
242-262 '60. (MIRA 15:1)

1. Klinicheskaya psikhonevrologicheskaya bol'nitsa imeni F.B.
Gannushkina (glavnyy vrach bol'nitsy - V.M.Rybalka) i klinika
psikhozov pozdego vozrasta (zav. klinikoy - prof. S.G.Zhislin)
Gosudarstvennogo nauchno-issledovatel'skogo instituta psikiatrii
Ministerstva zdravookhraneniya RSFSR.
(MENTAL DEFICIENCY) (CEREBROVASCULAR DISEASE)

GOLANT, D.B.

So-called post-apoplectic feeble-mindedness. Trudy Gos. nauchno-issl.
inst. psikh. 22:263-272 '60. (MIRA 15:1)

1. Klinicheskaya psikhonevrologicheskaya bol'nitsa imeni P.B.
Gannushkina (glavnyy vrach bol'nitsy - V.M.Rybalka) i klinika
psikhozov pozdnego vozrasta (zav. klinikoy - prof. S.G.Zhislin)
Gosudarstvennogo nauchno-issledovatel'skogo instituta psikiatrii
Ministerstva zdravookhraneniya RSFSR.
(MENTAL DEFICIENCY) (CEREBROVASCULAR DISEASE)

GOLANT, D.B.

Clinical characteristics of atherosclerotic dementia in senility and its delimitation from senile dementia. Trudy Gos.nauch-issl. inst.psikh. 25:105-118 '61. (MIRA 15:12)

1. Klinicheskaya psikhonevrologicheskaya bol'nitsa imeni Gannushkina (glavnyy vrach - V.N.Evtalka), klinika psikhozov pozdnego vozrasta (zav. - prof. S.G.Zhislin) i klinika sosudistyykh psikhozov (zav. - prof. V.M.Banshchikov) Gosudarstvennogo nauchno-issledovatel'skogo instituta psikiatrii Ministerstva zdoravookhraneniya RSFSR.

(CEREBRAL ARTERIOSCLEROSIS) (SENILE PSYCHOSIS)

GOLANT, D.B.

Unique speech disorders of fanciful character expressed in
atherosclerotic dementia. Trudy Gos.nauch-issl.inst.psikh.
25:119-130 '61. (MIRA 15:12)

1. Bol'nitsa No.4 imeni P.B.Gannushkina (glavnyy vrach - V.N.
Rybalka), klinika sosudistyykh psikhozov (zav. - prof. V.M.
Banshchikov) i klinika psikhozov pozdnego vozrasta (zav.
klinikoy - prof. S.G.Zhislin) Gosudarstvennogo nauchno-issledo-
vatel'skogo instituta psikiatrii Ministerstva zdravookhraneniya
RSFSR.

(CEREBRAL ARTERIOSCLEROSIS) (SPEECH, DISORDERS OF) (FANTASY)

JGV-1 5-5-6-10/27

Reflex Klystron with a High Ratio of Electronic Tuning

relation is obtained: $\delta f_{10} = \delta f_{10}(\theta)$, where λ is the mean wavelength, $\theta = \frac{2\pi}{\lambda} \frac{d}{2} \frac{1}{\sqrt{1 - \beta^2}}$, d is the distance between the grids, $\beta = \frac{v}{c}$ is the ratio of the electron velocity to the speed of light, c is the speed of light, δf_{10} is the limiting value of the electronic tuning of the klystron, $\delta f_{10} = \delta f_{10}(\theta)$ is the limiting value of the electronic tuning of the klystron.

$$\delta f_{10} = \frac{k_1^2 (\theta_0 - \pi)}{1 + \frac{C_2}{C_1}} \left\{ \left[\frac{J_1(\chi)}{\chi} \right]^2 - \left[\frac{J_1(\chi_0)}{\chi_0} \right]^2 \right\}^{1/2}, \quad (5)$$

where k_1 is the current transfer coefficient for the upper grid of the resonator and C_2 and C_1 are the capacitances of the resonator, while the function ϕ is defined by Eq.(4). The values of ϕ as a function of θ for various N are plotted in Fig.2. From the curves of Fig.2 it follows that the limiting value of the electronic tuning range, δf_{10} is dependent primarily on the number of the generation mode. In klystrons operating at currents in the vicinity of the critical current, the electrons undergo multiple transits

JCV-103-3-6-10/27

Reflex Klystron having a Wide Range of Electronic Tuning

three or more high frequency waves. This phenomenon can be explained by the theory of the electronic tuning of klystrons. In a reflex klystron it is possible to change the phase of the timed transit of electrons through the gap of the resonator by changing the distance between the cathode and the anode (anode-cathode voltage). On the other hand, the distance between the anode and the cathode will have only a small effect. These factors will have little effect on the operation of the tube, it is sufficient, therefore, to consider only the effect of the anode-cathode voltage on the operation of the tube. The effect of the anode-cathode voltage on the tuning range can be described by the following equation: δf_{MAKC} denotes the maximum tuning range, δf_{MAKC} obtained with three electron transits to the anode of the tuning range δf_{MAKC} obtainable with a transits δf_{MAKC} as the ratio of the maximum power in a given range to the power level determining the limit points of the range. δf_{MAKC} and δf_{MAKC} are

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SOV-100-3-6-17/27

Reflex Klystron having a Wide Range of Electronic Tuning

the values of the bunching parameter in the centre of the range for the case of 2 and 3 transits respectively. The quantity α is determined from the formula

$$\alpha = \frac{\theta_2 - 2\theta}{\theta_0 - \theta} \quad , \quad \text{where } \theta_2 \text{ is expressed by}$$

Eq.(7) in which n is a positive integer. Eq.(8) was used to plot a graph showing the dependence of the electronic tuning range on a parameter $(2n - 2N - 1)$; the full line shows the curve for $N = 1$ while the dashed line corresponds to $N = (n - 1)/2$. From the above it is concluded that in reflex klystrons it is possible to obtain an electronic tuning range amounting to 10 to 15% of the centre frequency. The above conclusions were confirmed experimentally. The paper contains 4 figures and 11 references, 4 of which are Soviet, 6 English and 1 German.

SUBMITTED: December 30, 1957.

1. Klystrons - Theory
2. Klystrons - Properties
3. Mathematics - Applications

Card 4/4

М. К. Галеев,
А. С. "изр"

(1) исследование работы параметрических усилителей
ВЧ в режиме автоколебаний при изменении параметров

5. О. Е. Ефимова
(2) исследование параметров нелинейных элементов
при работе в режиме автоколебаний

В. Ю. Ю.
(с 18 до 22 часов)

А. Д. Вайс

(1) исследование работы усилителей в режиме автоколебаний
при изменении параметров

Г. А. Зайтсман
(2) исследование параметров усилителей в режиме
автоколебаний

М. К. Галеев

Исследование параметров усилителей в режиме
автоколебаний

Л. Н. Лавров,
Ю. Н. Пыльнов

Современные методы исследования параметров
усилителей в режиме автоколебаний

33

А. В. Гринберг

Исследование параметров усилителей в режиме
автоколебаний

10 июня
(с 10 до 15 часов)

А. В. Гринберг,
М. А. Горюнов

(1) исследование параметров усилителей в режиме
автоколебаний

М. Н. Кузнецов,
Л. В. Рыжов

Исследование параметров усилителей в режиме
автоколебаний

М. Н. Кузнецов,
М. А. Горюнов,
В. Е. Нечкин

Исследование параметров усилителей в режиме
автоколебаний

М. А. Горюнов,
В. Е. Нечкин,
В. Е. Нечкин

Исследование параметров усилителей в режиме
автоколебаний

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report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in. A. S. Popov (VSEIE), Moscow,
8-12 June, 1957

L 2526-66 EWT(d)/FSS-2/EWT(1)/EWA(h) JM
ACCESSION NR: AP5021347

UR/0120/65/000/004/0136/0139
621.385.633.2:621.3.029.66

AUTHORS: Golant, M. B.; Vilenskaya, R. L.; Zyulina, Ye. A.; Kaplun, Z. F.; 37
Negirev, A. A.; Parilov, V. A.; Rebrova, T. B.; Savell'yev, V. S. 8

TITLE: A series of wide-range low-power generators of millimeter and submillimeter waves 6 25

SOURCE: Pribery i tekhnika eksperimenta, no. 4, 1965, 136-139

TOPIC TAGS: short wave radiation, backward wave tube, oscillator

ABSTRACT: Backward wave tubes represent the principal type of wide-range low-power generators of waves in the millimeter and submillimeter range. The purpose of this article is to acquaint scientists and technical workers with such devices. The characteristics of seven backward wave tubes are tabulated: OV-612, OV-613, OV-614, OV-622, LOV-0.5, LOV-1.0, and LOV-1.5. Wavelengths range from 0.49 to 8 mm, frequencies from 37.5 to 375 Gc, voltage changes from 2 to 4000 v, current from 30 to 50 mamp, power from 1 to 200 mw, and weight from 5 to 10 kg. Ranges overlap, and it is possible with these tubes to cover the entire range from one-half to eight millimeters. Orig. art. has: 8 figures and 2 tables. [04]

Card. 1/2

L 2526-66

ACCESSION NR: AP5021347

ASSOCIATION: none

SUBMITTED: 20Nov64

ENCL: 00

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4108

beh
Card 2/2

L 10156-67 E P(1)/EPC(k)-2/EMP(k) IUP(s) LG/M

ACC NR: AP602387

SOURCE CODE: UR/0109/66/011/007/1321/1322

AUTHOR: Golant, L. B.; Savel'yev, V. S.; Korotkova, Z. S.; Aleksyenko, Z. T. 5/
Yermakova, M. I.

ORG: none

TITLE: Laser and TW-tube bands overlap

SOURCE: Radiotekhnika i elektronika, v. 11, no. 7, 1966, 1321.-1322

TOPIC TAGS: laser, backward wave tube

ABSTRACT: In 1964, Yeu Ta reported the development of a EW-tube operating at a wavelength of 0.29 mm (Travaux du 5 congress international, Paris, 14-18 Sept, 1964). In the same year H. A. Gebbie et al. reported the development of a laser operating at 0.337 mm (Nature, v. 202, 4933, 685, 1964). In 1965, Soviet researchers designed a EW-tube operating at 0.296 mm. Thus, the laser band and BW-tube band have become overlapped. "The authors wish to thank N. A. Irisova and Ye. A. Vinogradov for their help in organizing measurements." Orig. art. has: no figure, formula or table.

SUB CODE:20 / SUBM DATE: 21Feb66/ ORIG REF: 002 / OTH REF: 002

Card 1/1

UDC: 621.385.6.029.67+621.379.325

24

Impregnating fabrics with drying oils. A. Ya. Timberg,
Sk. N. Golant and D. F. Shifman. Russ. 32, 592, Nov. 44,
1938. Fabrics are impregnated with a mixt. of polymerized
linseed oil, oxidized fish oil, Al and Ca naphthenates,
paraffin and an oil drier with the addn. of a solvent, e. g.,
kerosene.

ALUMINUM METALLURGICAL LITERATURE CLASSIFICATION

ALUMINUM METALLURGICAL LITERATURE CLASSIFICATION

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Substitute for linseed oil - A. Ya. Dmberg and Sh. I. Gaidmir. USSR R. 67,618, 1950. 41, 1946. Oils such as sunflower oil are ethenated with pentamethylol in the presence of catalyst and the product is heated at 140° for the purpose of polymerizing and polymerizing. M. H. 5000.

1948. The composition of varnishes containing only oil and turpentine can be determined by means of the flash point of the mixture. A graph of flash point against composition gives a curve which up to a certain composition is straight line.

M. H. 5000.

AND ALL METALLURGICAL LITERATURE CATALOG

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

GOLANT, S.H.N.

Two variations of esters of polyvinyl alcohols into
 tridimensional polymers. A. Yu. Drobinskii, Sh. S. Golant,
 and R. M. Fomulyer (Leningrad Technol. Inst., Leningrad).
 Izvestiya v Oblesti Vysokomol. Soedinenii, Doklady
 6-oi Konf. Vysokomolekul. Soedineniyam, Akad. Nauk
 S.S.S.R. 1949, 172-81. Esterification of methacrylic acid
 with the corresponding polyalcohols gave the corresponding
 esters with: ethylene glycol (b.p. 7°, d₄ 1.0591), glycerol
 (b.p. 150-60°, d₄ 1.1018), and pentaerythritol (m. 64-5°).
 The 1st 2 were incapable of polymerization at room temp.
 with various catalysts; the 3rd ester was able to polymerize
 to tridimensional polymer at room temp. with special Cp
 catalyst (the nature not explained), while H₂O₂ gave uncer-
 tain results. The final polymer was insol. and infusible.
 A liquid ester of methacrylic acid with polyglycerol poly-
 merized readily with Cp catalyst at 20°, while with H₂O₂
 no change took place. Films of the pentaerythritol and
 polyglycerol esters showed very high adhesive properties.
 Detn. of mol. wt. and peroxide no. during polymerization of
 these esters showed that peroxides were intermediates in the
 polymerization. Esters of maleic acid with ethylene glycol
 were prepd. in the polymeric state; their mol. wt. was re-
 lated linearly to the acid no. and thus indicated their linear
 structure. In such an ester with 8 structural repeating units
 it was possible to attain tridimensional polymer structure by
 treatment with the Cp catalyst at 20° (9 days) or 110° (2.5
 hrs.). The transformation was accompanied by addn. of O
 which becomes appreciable at higher temp., and at 110° 1
 atom of O is attached to each double bond (av. value),
 possibly acting as an interchain bridge. Polymers with
 highest mol. wt. also have high peroxide no. Hydrolysis
 of the tridimensional ester yielded fumaric acid in 8-9%
 yields; the remaining acids were infusible and contained
 more O than fumaric acid. G. M. Kosolapov

8/21

2

GOLANT, Sh. N.

Conditions for cross-linking polymers. A. Ya. Pribram, Sh. N. Golant and L. I. Goldfarb. Personal communication. Leningrad, 1957. *Polym. Sci. USSR*, 1958, 1, 105-110. Polybutylmethacrylate (I) (sp. viscosities 0.21, 1.0% in toluene) was cross-linked by heating with H_2O_2 (II) in form of films obtained by evaporation of solvent. Extent of insolubilization was studied by a Soxhlet extraction with $CHCl_3$. At 100-120° no insol. products are formed in presence of 3% H_2O_2 (time not given); at 130-200° from 2 to 10% of I was insolubilized (time not given). At 100-120° increasing the amt. of II from 0 to 10% gave a cross-linked polymer (insolubilization) at 3% H_2O_2 with 10% insolubilization at 0% H_2O_2 (time not given). The per cent insolubilization with 3% H_2O_2 at 170-200° as a function of time (up to 6 hrs.) is given in a curve only. Films of cross-linked I have reduced elasticity. Cross-linking is carried out at 170-200° for 6 hrs.; when II was held at 0% the amt. of insol. products produced in the presence of 10, 15, 25% tritioisophosphate (III) were 10, 2.1, and 1.0%, resp.; when III was held at 10%, 0.3, and 10% H_2O_2 gave 1.0, 10, and 62% insol. products, resp. When linear polymers of I were prep'd. by heating 80:20, 70:30, and 60:40 mixts. of monomer and solvent (xylene, 2) in presence of 3, 0.3, and 0.3% H_2O_2 at 100-10, 90-5, and 80-5°, for 6 hrs., products had sp. viscosities of 0.12, 0.32, and 0.44 (1% in toluene, 2), resp. On heating these samples to 170-200° (time not given) in presence of II (addnl. amts. added, if any, not given) 30, 44, 70, 6, and 75-85% insol. products were produced, resp.

James P. Dancbe

GOLANT, Sh. N.

USSR/Chemistry - Plastics

Nov 51

"Conversion of Polymers in Presence of Pentaerythritol Ester of Methacrylic Acid," A. Ya. Drinberg, Sh. N. Golant, L. I. Gol'dfarb, Leningrad Technol Inst Imeni Leningrad

"Zhur Prikl Khim" Vol XXIV, No 11, pp 1181-1190

Polymerization of polybutylmethacrylate, perchlorovinyl, and polyethylene in presence of pentaerythritol ester of methacrylic acid was found to proceed through formation of peroxides, yielding 3-dimensional polymer. Conversion proceeded only in presence of O₂ "carriers" (cobaltic

204T6

USSR/Chemistry - Plastics (Contd)

Nov 51

soaps), not in CO₂ medium. Bromination in dark showed that drop of Br number occurs in parallel with increase of amt of 3-dimensional polymer.

204T6

"APPROVED FOR RELEASE: Thursday, September 26, 2002

CIA-RDP86-00513R000515610009-4

APPROVED FOR RELEASE: Thursday, September 26, 2002

CIA-RDP86-00513R000515610009-4"

GOLANT, Sh., MAYSEL, S.

GOLANT, SH., RIVINA, R.

Roofing, iron and steel

Painting steel roofs. Zhil.-kom.khoz, 2, No. 5, 1952

9. Monthly List of Russian Accessions. Library of Congress, September 1952, Incl.

GOLANT, Sh.N., kandidat tekhnicheskikh nauk; RIVINA, R.I., inzhener;
ZOLOTNITSKIY, N.D., redaktor; POLIKARPOV, M.P., redaktor; KONYA-
SHINA, A., tekhnicheskiiy redaktor

[Painting steel roofing] Okraska stal'nykh krovvel'. Moskva, Izd-
vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1954. 50 p.
(Roofing--Painting) (MLRA 8:6)

BOLOTNYY V. . . kandidat tekhnicheskikh nauk; GOLANT, Sh., kandidat tekhnicheskikh nauk.

Use of durable paints on building facades and roofs. Zhil.-kon.khoz.
4 no.2:11-15 '54. (MLRA 7:5)
(Roofing paint)

GOLANT, Sh.N., kandidat tekhnicheskikh nauk; DUBITSKIY, A.V., inzhener.

From practical experience in the use of weatherproof building facade
paints in Leningrad. Gor.khoz.Mosk. 28 no.9:13-15 S '54. (MLRA 7:10)
(Leningrad--Facades) (Facades--Leningrad) (Paint)

GOLANT, Sh., kandidat tekhnicheskikh nauk; RIVINA, R., inzhener.

Painting interior room surfaces with synthol paints. Zhil.-kom.
khoz. 5 no.7:13-14 '55. (MLRA 9:1)

(Paint)

GOLANT, Sh., kandidat tekhnicheskikh nauk; RIVINA, R., inzhener.

Coating sheet iron roofing. Zhil.-kom. khoz. 5 no.8:12-13 '55.
(Roofing, Iron and steel) (MLRA 8:6)

DRINBERG, Anatoliy Yakovlevich, doktor tekhnicheskikh nauk; GOLANT, Shaya
Lakhimovich, kandidat tekhnicheskikh nauk; POLYAKOV, Ya.P., redaktor;
BASHKIROV, L.G., redaktor izdatel'stva; KONYASHINA, A., tekhnicheskiy
redaktor

[Painting building facades] Okraska fasadov zdaniy. Izd. 2-oe, ispr.
i perer. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva
RSFSR, 1956. 127 p. (MLRA 10:1)
(House painting)

GOLANDT, Sh.N., kandidat tekhnicheskikh nauk; RIVINA, R.I., inzhener.

Substitute for oil paints used in interior finishing of apartment
houses. Biul.stroi.tekh.13 no.3:21-22 Mr '56. (MLRA 9:7)
(Paint)

GOLANT, Sh.N.; RABINOVICH, G.M.; SPIRIDONOVA, O.M., kand.tekhn.nauk, nauchnyy red.; ROTENBERG, A.S., red.izdatel'stva; PUL'KINA, Ye.A., tekhn.red.

[Spray painting of buildings, using a paint without an oil base]
Mekhanizirovannaya okraska zdaniy bezmaslianyimi sostavami; opyt
raboty novatora-maliara A.P.Farutina. Leningrad, Gos.izd-vo lit-ry
po stroit.i arkhitekt., 1957. 40 p. (MIRA 10:12)
(Spray painting)

GOLANT, Sh., kandidat tekhnicheskikh nauk.

Cleaning facades painted with vinylperchlorate paints. Zhil.-kom.
khoz. 7 no.2:5-6 '57. (MLRA 10:4)
(Facades--Maintenance and repair)
(Cleaning machinery and appliances)

GOLANT, Sh., kandidat tekhnicheskikh nauk.

How to improve the painting of facades with perchlorvinyl paints.
Zhil.-kom.khoz. 7 no.9:30 '57. (MIRA 10:10)
(Paint) (House painting)

GOLANT, Sh., kand.tekhn.nauk; RIVINA, R., inzh.

What's new in cleaning house façades. Zhil.-kom. khoz. 8 no.3:28
'58.

(MIRA 11:4)

(Leningrad--Façades)

SHEMYAKOV, V., kand.tekhn.nauk; GOLANT, Sh., kand.tekhn.nauk; RIVINA, R.,
inzh. (Leningrad)

Using synthetic water paints in painting facades of buildings.
Zhil.-kos.khoz. o no.6:18 '59. (MIRA 12:10)
(Leningrad.-House painting)

GOLANT, Sh.N., kand.tekhn.nauk; SHEMYAKOV, V.P., kand.tekhn.nauk;
SHOROKHOV, N.V., inzh.; RIVINA, R.I., inzh.; SEISTER, G.M., red.;
CHURINOV, A.I., red.izd-va; NAZAROVA, A.S., tekhn.red.

[Provisional technical instruction for making and using polystyrene, polyvinylacetate, and mastic-lime compositions for finishing building façades] Vremennye tekhnicheskie ukazaniia na izgotovlenie i primeneniie polistirol'nykh, polivinilatsetatnykh i izvestkovo-mastichnykh sostavov dlia otdelki fasadov zhilykh zdani. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1960. 49 p. (MIRA 14:1)

1. Akademiya kommunal'nogo khozyaystva. Leningradskiy nauchno-issledovatel'skiy institut.
(Façades) (Paint)

LYSOVA, A.I., kand. tekhn. nauk; GOLANT, Sh.N., kand. tekhn. nauk;
FOLUSHEVA, V.I., inzh., red.

[Roofs of glass reinforced plastics; according to materials of the Leningrad Research Institute of the Academy of Communal Economics] Krovlia iz stekloplastik; po materialam Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khoziaistva im. K.D.Pamfilova. Moskva, Gosstroizdat, 1961. 21 p. (MIRA 17:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Starshiy nauchnyy sotrudnik Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Lysova).
3. Rukovoditel' laboratoriyey sinteticheskikh materialov Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Golant).

GOLANT, Sh., kand.tekhn.nauk (Leningrad); USVIATSEVA, B., inzh. (Leningrad)

Seamless mastic floors. Zhil.-kom. khoz.ll no.7:27 J1 '61.

(MIRA 14:7)

(Floors)

GOLANT, Sh.N., kand. tekhn. nauk; DUBITSKIY, A.V., inzh.,; BESPALOV, I.V.,
inzh., nauchnyy red.; FENOVA, Ye.M., red. izd-va; PUL'KINA, Ye.A.,
tekhn. red.

[Synthetic paints in housing construction] Sinteticheskie kraski v
zhilishchnom stroitel'stve; iz opyta Leningrada. Leningrad, Gos.
izd-vo lit-ry po stroit., arkhitekt. i stroit. materialam, 1961. 138 p.
(MIRA 14:8)

(Paint)

GOLANT, Sh., kand.tekhn.nauk; RIVINA, R., inzh.; USVYATSOVA, B., inzh.

Use of plastics in the major repair of buildings. Na stroi. Ros.
3 no.1:20 Ja '62. (MIRA 16:5)
(Apartment houses--Maintenance and repair) (Plastics)

GOLANT, Sh.N., kand. tekhn. nauk; RABINOVICH, G.M., inzh.

Use of plastics and synthetic materials in housing construction. Transp. stroi. 12 no.1:29-32 Ja '62. (MIRA 17:2)

1. Rukovoditel' laboratorii plastmass i sinteticheskikh materialov Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva (for Golant).
2. Nachal'nik otdela novoy tekhniki Lenzhilproyekta (for Rabinovich).

GOLANT, Sh., kand.tekhn.nauk (Leningrad)

Introduce plastic products into housing management. Zhukovskiy
13 no.2:12-13 '63. (MIRA 1973)
(Plastics) (Apartment houses--Maintenance and repair)

GOLANT, Sh., kand. tekhn. nauk (Leningrad)

New oilless paints. Zhil.-kom. khoz. 12 no. 5:16 My '62.
(MIRA 15:10)

(Paint)

GOLANT, Sh.N., kand. tekhn. nauk; L'VOVA, Ye.D.

[Using water-resistant materials in indoor repair work]
Primenenie gidrofobizuiushchikh veshchestv pri vnutren-
nikh remontnykh rabotakh; rekomendatsii. Moskva, Izd-vo
M-va kommun.khoz. RSFSR, 1963. 13 p. (MIRA 17:9)

1. Akademiya kommunal'nogo khozyaystva. Leningradskiy
nauchno-issledovatel'skiy institut.

GOLANT, Shaya Nakhimovich, kand. tekhn. nauk; L'VOVA, Tsvetlana
Dmitriyevna, inzh.; AMMOSON, N.G., red.; FREGEL, D.P.,
red. inzh.; GVIKTS, V.L., tekhn. red.

[Increasing the durability of the finish (plastering and
painting) of interior rooms by means of waterproofing] Po-
vyshenie dolgovechnosti otdelki (shtukaturki i otkraski)
vnutrennikh pomeshchenii sroboz gidrofobizatsii. Le-
ningrad, 1963. 20 p. (Leningradskii dom nauchno-tekhnicheskoi
propagandy. Otkrytye posredstvom opytom. Seriya: Stroitel'-
nye materialy i konstruktiv. 1963.5) (MIRA 17:1)

APPROVED FOR RELEASE: Thursday, September 26, 2002

CIA-RDP86-00513R000513

PREDTECHENSKIY, A.V.; GOLANT, V.Ya.; BESSMERTNYI, A.S., red.; LEVO-
NEVSKAYA, L.G., ~~tekhn.red.~~

[The cradle of Russian science; historical studies on the
scientific institutions of the Strelka, Vasil'yevskiy Island
in Leningrad] Kulybel' russkoi nauki; istoricheskii ocherk
o nauchnykh uchrezhdeniyakh Strelki Vasil'evskogo ostrova v
Leningrade. Leningrad, Lenizdat, 1959. 253 p. (MIRA 13:5)
(Leningrad--Science)

GOLANT, Veniamin Yakovlevich

[Nation of sages] Narod mudrets. Leningrad, Gos. uchebno-
pedagog. izd-vo M-va prosv. RSFSR, 1959. 133 p.

(Inventions) (Inventors, Chinese) (MIRA 14:12)

USSR/Nuclear Physics - Gamma Rays

Jul 51

"Oscillational-Rotational Spectrum of Atomic Nuclei," V. Ye. Golant

"Zhur Eksper i Teoret Fiz" Vol XXI, No 7, pp 780-787

On basis of liquid drop model, gamma-radiation of heavy nuclei is studied for small energies of citation. Probabilities of gamma transitions connected to simultaneous variation in static of surface oscillations and rotational state of nucleus are computed. Golant finds that

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USSR/Nuclear Physics - Gamma Rays (Contd)

Jul 51

interaction of oscillation and rotation of nucleus may be neglected. He was assisted by Prof Ya. I. Frenkel. Submitted 19 May 50.

LC

189T81

FRENKEL', Ya.I.; SEMENOV, N.N., akademik, redaktor; SOXOV, A.A., doktor fiziko-matematicheskikh nauk, redaktor; BOGOLYUBOV, N.N., akademik, redaktor; TAMM, I.Ye., akademik, otvetstvennyy redaktor; ANSEL'M, A.I., doktor fiziko-matematicheskikh nauk, redaktor; BLOKHINTSEV, D.I., doktor fiziko-matematicheskikh nauk, redaktor; KONTOROVA, T.A., kandidat fiziko-matematicheskikh nauk, redaktor; GOLANT, V.Ye., redaktor izdatel'stva; SMIRNOVA, A.V., tekhnicheskii redaktor

[Selected works] Sbranie izbrannykh trudov. Moskva, Izd-vo Akademii nauk SSSR. Vol.1. [Electrodynamics; general theory of electricity] Elektrodinamika: obshchaya teoriya elektrichestva. 1956. 370 p.

1. Chlen korrespondent AN SSSR (for Frenkel') (MLRA 9:11)
(Electrodynamics)

PA - 2804

AUTHOR
TITLE

GOLANT, V.IE.,
Pulse High Frequency Discharge in Argon. I. Electron Scattering
Function According to Velocities.
(Vozniknoveniye impul'snogo razryada v argone na sverkhvysokikh
chastotakh. I. Funktsiya raspredeleniya elektronov po skorostyam.
Russian)

PERIODICAL

Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 4, pp 756-770, (U.S.S.R.)
Received 5/1957 Reviewed 6/1957

ABSTRACT

Determination is carried out on the conditions which correspond to the production of an impulse discharge in argon at centimeter wave frequencies and aduration of impulse of the order of 10^{-6} sec. The diffusion of the electrons towards the periphery of the discharge interval is disregarded. The approximate calculation of the distribution function is based on the analytical approximation of known experimental data on the probability of elastic and inelastic collisions of electrons with argon atoms. Calculations showed that in the most unfavorable case the difference of the distribution functions in two border cases does not exceed 10% for the energy loss in the case of inelastic collisions for the lowest value of the β parameter characterizing interaction of electrons and argon atoms. The coefficient of the ionization of argon atoms by the electrons and by the high frequency conductivity of the argon at the time of the production of the impulse discharge is calculated by means of distribution function. The maximum value of the ionization coefficient is obtained at 2800 Kc and

Card 1/2

PA - 2805

AUTHOR
TITLE

GOLANT, V.YE.,

Pulse High Frequency Discharge in Argon. II. The Formation of the Discharge under Influence of rectangular Energy-Impulses.

(Voznikoveniye impulsnogo razryada v argone na sverkhvysokikh chastotakh. II. Voznikoveniye razryada pod vozdaystviyem pryamougol'nykh impul'sov moshchnosti - Russian)

PERIODICAL

Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 4, pp 771-783, (U.S.S.R.)
Received 5/1957

Reviewed 6/1957

ABSTRACT

The critical amount of the voltage amplitude of the electric field is computed. It is shown to be useful to determine the critical voltage according to the maximum value of $P_{\text{impulse load}}$ (average value of the square

of the voltage of an electric field during an impulse) on the occasion of $P_{\text{decr.}}$ (decreasing power under load if the discharge interval is lacking) of small values, where ionization in gas is lacking, to great values where the steady discharge occurs. The calculations were carried out for the cases of single as well as of periodical repeating high frequency impulses. The 10^8 -fold magnification of the initial concentration of electrons is shown to lead to an only 1.1 - 1.3-fold decreases of the critical voltage E_{cr} which means that the E_{cr} changes very slowly on the occasion of the change of the active component E_0 or the conductivity of the discharge interval (in the case of electrons lacking). Calculation data are compared with those of the experiments (impulse discharge in argon at 2800 Kc). The experiment proved the ab-

Card 1/2

[illegible]

7-27-7-22/40

The production of a point-to-point frequency
(Joules/meter) in the range of 100 to 1000
cycles per second.

2. А.А. Голубовский / Российский государственный университет / 1988.

[illegible]

3.00 1/2

The Production of a High-Frequency Discharge in Neon at H.F. Frequencies 57-27-7-11/40

The action of the electrons of the water-molecules on neon at 100 Hz and its effect on the neon) and the high-frequency conductivity of neon during the time of the formation of the impurity discharges. These data were used for the calculation of the critical quantity of the voltage-amplitude of the electric field. The results of the calculations are compared with the experimental data obtained in the literature. There are 11 references, 5 of which are Soviet.

ASSOCIATION: L. N. Kuznetsov, Institute of Physics, Academy of Sciences of the USSR, Moscow, U.S.S.R. (L. N. Kuznetsov, Institute of Physics, Academy of Sciences of the USSR, Moscow, U.S.S.R.)

SUBMITTED: 1967-11-11, 1968

AVAILABLE: Library of Congress

1. High frequency discharges-Mathematical analysis
2. New Applications

57-9-19/40

AUTHOR

Golant, V. Ye.

TITLE

The Excitation of a Pulse Discharge in Argon at High Frequencies. III. The Excitation of a Discharge Under the Action of an Exponentially Rising High-Frequency Energy.
 (Vozniknoveniye impul'snogo razryada v argone na sverkhvysokikh chastotakh. III. Vozniknoveniye razryada pod vozdeystviyem eksponentsial'no narastayushchey vysokochastotnoy moshchnosti.)

PERIODICAL

Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 9, pp. 2071-2079 (USSR)

ABSTRACT

On the strength of the results obtained by those analyses of the function for electron distribution according to velocities, which were dealt with by previous papers, the amplitude modification of the voltage of the electric field in the discharge inter space at the excitation of a discharge in argon and under the action of an exponentially rising high-frequency is dealt with. The parameters characterizing the process of the excitation of the discharge are determined. On the basis of the data obtained the nature of the pulse filtrating through the discharge space during the rise of the power output of the generator

CARD 1/3

57-9-19,40

The Excitation of a Pulse Discharge in Argon at High Frequencies. III. The Excitation of a Discharge Under the Action of an Exponentially Rising High-Frequency Energy.

carried out are compared with those obtained by experiment. It is shown that, in spite of the fact that the analysis has the character of an approximation, experimental results agree with those obtained when computing parameters.

There are 7 figures and 2 Slavic references.

ASSOCIATION: None given.
SUBMITTED: March 27, 1957
AVAILABLE: Library of Congress.

CARD 3/3

GOLANT, V. $\frac{1}{2}$

"The Relation Between Characteristics of Ultra High Frequency Current in Gas and Characteristics of the DC Current in Gas."

"The Formation of Impulse Ultra High Frequency Discharges in Inert Gases."

paper presented at Second All-Union Conference on Gaseous Electronics, Moscow, 2-6 October 1959.

AUTHORS: Abramov, T. S., Golant, V. Ya. 57-29-5-31/76

TITLE: On the Influence of Diffusion on the Formation of a Pulsed Superhigh Frequency Discharge in Argon (O vliyanií diffúzii na vozniknoveniye impul'snogo sverkhvysokochastotnogo razryada v argone)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1953, Vol. 23, Nr 5, pp. 1096-1101 (USSR)

ABSTRACT: The authors communicate the results of the experimental determination of the dependence of the critical field strengths characterizing the formation of pulsed superhigh frequency discharges in argon, on the dimensions of the discharge volume at variable gas pressure. The experimental investigation was conducted in an apparatus, the block-scheme of which is shown in figure 1. The measurement methods were analogous to the methods described in reference 2. According to reference 2 it is possible to compute the function E_{cr} vs. the field density and pressure by utilizing the dependence α vs. E determined in reference 1. The E_{cr} obtained from these computations is shown in figure 2. The optimum correspondence between the experimental and theoretical results are obtained at values of $z_{kr}^{1/2} = 7 \cdot 10^6 \frac{1}{\text{sec}}$ ($\alpha = 7.7$; $\eta^{1/2} E_0 \approx 1.10^4$). According to the

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On the Influence of Diffusion on the Formation of a Pulsed
Superhigh Frequency Discharge in Argon

57-28-5-31/36

experimental data shown by figure 4 $\frac{E_{ex}}{E_{kr,\infty}} > 1.1$ at
 $pl^2 < 0.1 - 0.2 \text{ cm}^2/\text{mm of mercury}$ $E_{ex} < E_{kr,\infty}$ column (that
is to say at $\frac{(pl)^2}{\pi^2} < 2 \cdot 10^{-5} \text{ cm}^2/\text{sec mm of mercury column}$). If
for this case the value $u_{kr,\infty}^1(u_{kr,\infty}^1 = 7.1 \cdot 10^6 \frac{1}{\text{sec}})$ and the quant-
ity μ is correspondingly taken according to the curve of the
paper mentioned in ref. 2 ($\mu \approx 3.5$) then $D = 10^4 \text{ cm}^2/\text{sec}$ is
obtained from formula 11.

$$\left(\frac{E_{ex}}{E_{kr,\infty}}\right)^\mu = 1 + D \frac{\pi^2}{u_{kr,\infty}^2} = 1 + (Dp) \frac{\pi^2}{u_{kr,\infty}^2} \frac{1}{(pl)^2} \quad (11)$$

This quantity is considerably smaller than the coefficient of
the free electron diffusion. The magnitude of the effective
diffusion coefficient proved to be an intermediate value bet-
ween the values of the coefficient of free diffusion and of
bipolar diffusion according to the conducted estimation. The-
se considerations given for the explanation of the experimen-
tal results, of course, only have the character of a prelimi-
nary estimation. A rigorous analysis must take into considerat-
ion the determination of the initial spatial distribution of the
electrons, the influence of diffusion on the electron distribut-

Carl 2/3

On the Influence of Diffusion on the Formation of a Pulsed 57-28-5-31/36
Superhigh Frequency Discharge in Argon

ion and the influence of the space charge on the electron
diffusion. There are 4 figures and 4 references, 3 of which
are Soviet.

SUBMITTED: July 19, 1957

1 High frequency discharges--Analysis 2. Argon--Diffusion

Card 5/3

FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4

AUTHOR: Golant, V. Ye.

53-65-1-2/15

TITLE: Gas Discharge at Ultrahigh Frequencies (Gazovyy razryad na sverkhvysokikh chastotakh)

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol. 65, Nr 1, Pp. 51 - 55 (USSR)

ABSTRACT: The author of the present paper gives a survey on the present stage of research work concerning gas discharges, taking into consideration in particular the range of centimeter waves. Publications dealing with the same subject during the last ten years are in part dealt with at length and the most important results are discussed. The paper is arranged in 5 sections: I) Introduction, II) The velocity distribution function of the electrons in the field of ultrahigh frequencies. Here the author first deals with the method of the theoretical investigation of gas discharges at ultrahigh frequencies, the kinetic equation for the velocity distribution function, the principle of similarity of high-frequency discharges, the electron distribution function in the steady, as well as in

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the high-frequency field, and, finally, with the integration methods of the kinetic equation. Section III is entitled: "The discharge phenomena under the continuous influence of a high-frequency force. Here, the author deals with the conditions of discharge phenomena and the methods of experimental investigation, further with the discharge phenomena under diffusion conditions, with the influence exercised by electron capture on the discharge phenomena, with the influence of a steady electric, as well as of a steady magnetic field on discharge phenomena, and finally with the influence of recombination. Section IV, entitled "The steady discharge conditions at ultrahigh frequencies", first deals with the conditions for the maintenance of a discharge, then at length with the diffusion and the high-frequency discharge in the presence of an electronegative gas. Section V finally deals with pulsed discharges at ultrahigh frequencies, i. e. first with the discharge phenomena in the case of rectangular high-frequency pulses, then with the experimental methods and with the results of the investigation concerning pulsed high-frequency discharges. In conclusion, the author comments on discharge phenomena at

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high pressures and on the discharge under the influence of strong high-frequency pulses. There are 34 figures and 34 references, 6 of which are Soviet.

1. Gas discharges--Theory

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SOV/109-4-4-12/24

AUTHORS: Golant, V.Ye. and Mandel'shtam, M.Ya.

TITLE: Methods of Simulating the Increased Power for the
Testing of the T-R Tubes in Radar Antenna Switches
(Metody imitatsii povyshennoy moshchnosti pri ispytaniyakh
razryadnikov radiolokatsionnykh antennoykh pereklyuchateley)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 4,
pp 660 - 673 (USSR)

ABSTRACT: Two test equipments permitting the simulation of the
increased test power for T-R tubes are suggested. The
first system is illustrated in Figure 1. It consists
of a magnetron oscillator, a T-junction, a phase shifter,
two reactive diaphragms, a matched load and the investigated
tube (symbol R). It is seen that the investigated tube
is situated inside a cavity resonator, which is limited by
two reactive diaphragms. The resonator is tuned by varying
the electrical distance between the diaphragms (e.g. by means
of the phase shifter). The second system, shown in
Figure 2, employs a resonator which is bounded by a
reactive iris and by a plunger. The resonator is tuned

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by varying the position of the plunger. The system employs a ring-type balanced bridge, which provides a matched load to the transmitter. If the phase in the arm 2 of the bridge is properly chosen and the load in the arm 3 is matched, it is possible to match the input of the bridge, while a full reflection is obtained in the arm. The second system is more complex than the first but the tuning of the resonator is accomplished very easily. The parameters characterising the test operating conditions in the two systems are determined analytically. It is shown that for the first system, the magnification coefficient K and the modulus of the reflection coefficient $G_{vk\eta}$ at the input are given by Eqs (7);

K is defined as the ratio of the field amplitudes squared at the tested switch tube and at the input of the test device, G is the reflection coefficient of a diaphragm with a matched load; the parameter β represents the characteristic of the T-junction whose scattering matrix

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is given by Eq (2). The same characteristic operating parameters for the second test system are expressed by Eqs (12). The parameters K and C_{vth} are plotted in Figures 5 and 4. The dependence of the parameters K and C_{vth} on the de-tuning of the resonators is represented by Eqs (11) and (16); the first test system obeys Eqs (11), while the second system is governed by Eqs (16). The effect of the de-tuning in both systems is illustrated graphically in Figures 5 and 6. From the analysis, it follows that at wavelengths of 3-10 cm, it is possible to obtain magnification coefficients of the order of 10-20. The methods are disadvantageous, however, in that the de-tuning of the resonator leads to an increase in the reflection coefficient at the output of the magnetron and, secondly, the methods are not fully equivalent to the usual test conditions. In view of the above, it was decided to investigate a ring-type resonator with a travelling wave (instead of a standing wave resonator); a system of

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this type is shown in Figure 7. The coupling between the principal waveguide and the resonator is directional and the tuning of the resonator is done by changing its electrical length (by means of a phase shifter). In the absence of irregularities in the resonator waveguide, a travelling wave is formed in it. The amplitude of the field of this wave can be considerably greater than that of the wave in the principal waveguide. If it is assumed that the coupling slot of the system has infinite directivity and is matched, the scattering matrix of the directional filter formed by the principal waveguide, the resonator and the slot is given by Eq (22), where α is the coupling coefficient. The magnification coefficient and the input reflection coefficient for the system are given by Eqs (25). The de-tuning effect on the magnification and the reflection is represented by Eqs (27). Analysis of these equations shows that the system of Figure 7 is preferable to the systems of Figures 1 and 2. A test equipment based on a travelling

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wave resonator was devised. This is shown in Figure 10. The equipment consists of: 1) a modulator; 2) a magnetron oscillator; 3), 7) and 8) directional couplers; 4) a directional coupler between the resonator and the principal waveguide; 5) a matched load absorber; 6) a phase shifter; 9) a waveguide section of variable length; 10) a waveguide tap; 11) a calibrated attenuator; 12) a thermistor probe and 13) a thermistor bridge. A system of Figure 10 was investigated experimentally and it was found that the magnification coefficients obtainable were of the order of 4-5. The authors express their gratitude to M.L. Pesina for her collaboration. There are 11 figures and 7 references, 4 of which are English, 1 French and 2 Soviet.

SUBMITTED: November 19, 1957

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AUTHORS:

TITLE:

PERIODICAL:

PP 1359 - 1358 (USSR)

I.M. Podgorniy and N.G. Koval'skiy - "New Data on X-ray

Radiation During Pulse Discharges" dealt with the investi-

V.A. Khrabrov and M.M. Subbotin - "Spectrum of the Neutron

Emission of the Neutron Source in Powerful Gas Discharges

in Chambers with Conducting Walls."

I.A. Korotkiy et al. - "Investigation of the Gas Discharge

in a Closed Chamber."

S.M. Orlov et al. - "A Turn of Plasma in Transverse

Magnetic Field."

I.G. Krasov - "Data on the Division of a Cathode Spot

on Mercury in a Low-pressure Arc" (see p. 1289 of the

Journal).

A.F. Kuchin (England) - "A New Theory of the Cathode Spot"

in a Plasma Discharge."

I.M. Braukov - "Positive Column in a Hydrogen Discharge

With Stationary and Pulse Loads."

I.G. Nekrasov and A.A. Likh - "Current Distribution on

the Surface of Electrodes in Negative Pulse Discharges."

L.B. Kyz - "Some Properties of Gas Discharges in Low-voltage

in Helogen Composites."

G.I. Fedotkin and V.I. Granovskiy - "Comparison of the

Initial Deionization in the Isotherm of Hydrogen (H

and D)."

I.A. Akol'zina communicated new results on the pre-breakdown

current pulses at low pressure."

M.Ya. Vasil'yev and A.V. Zaytsev - "AC RFSE-density

Oscillation of Czechoslovakia communicated some information

on the investigation of the pre-breakdown phenomena in low-pressure

gas discharges."

B.G. Braginskii dealt with the problem of determination

of the energy of fast ions in low-pressure discharges."

B.M. Indol'skiy - "Conductivity of a Plasma String."

S.L. Brachukh and V.D. Shadrinov - "Theory of a High-

temperature section was presented by N.A. Katskov and

the following papers were read:

V.I. Golent - "Formation of Ultrahigh Frequency Pulse

Discharges in the Plasma."

G.I. Petyukhin - "Influence of the Boundary Conditions on

the Frequency of Oscillations in a Plasma String."

S.G. Malkin et al. - "Investigation of a Plasma String in

Ultrahigh Frequency Pulse Discharge and the Process of

its Development."

G.M. Zastavner and G.S. Solov'ev - "Some Results of the

Investigation of the Formation of Low-pressure High-

Frequency Discharges."

G. Mariani (USA) - "Conductivity of Weakly Ionized

Plasma."

A.M. Kuznetsov - "The Conditions of Transition from

High-frequency Corona Discharge to Atmospheric Pressure."

V.I. Golent - "The Relationship Between the Characteristic

Current to the Discharge and the Conductivity of the Dis-

charge Plasma in the Window of a Resonance Discharge

Tube."

S.M. Lazitskiy and L.P. Shadrinov dealt with the

applicability of the probe method to high-frequency

discharges (see p. 1358 of the Journal).

The paper by V.I. Golent et al. was devoted to the

investigation of the ultra-high frequency plasma by

means of the Stark effect."

S.G. Malkin et al. dealt with the problem of electric

field in a high-frequency discharge at low pressure."

I.G. Krasov - "Investigation of the Plasma String in

Ultrahigh Frequency Pulse Discharge and the Process of

its Development."

G.M. Zastavner and G.S. Solov'ev - "Some Results of the

Investigation of the Formation of Low-pressure High-

Frequency Discharges."

G. Mariani (USA) - "Conductivity of Weakly Ionized

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means of the Stark effect."

S.G. Malkin et al. dealt with the problem of electric

field in a high-frequency discharge at low pressure."

I.G. Krasov - "Investigation of the Plasma String in

Ultrahigh Frequency Pulse Discharge and the Process of

STU/41-21 1 A/31

AUTHOR: Golant, V. Ye. ^{Super}

TITLE: The Occurrence of a/High-frequency Impulse Discharge in Noble Gases

PERIODICAL: Izvestiya Akademii Nauk SSSR. Seriya fizicheskaya 1957 Vol 23, Nr 6, pp 252 - 257 (USSR)

ABSTRACT: The critical field intensities determining the occurrence of a high-frequency impulse discharge may be computed by means of formula (1) if the dependence of the mean ionization frequency on the amplitude of field intensity is known. The dependence of the mean ionization frequency of krypton and xenon is carried out in the first part of the paper. Approximations (3) are assumed for the cross section of the momentum transfer and these approximation values are in good agreement with experimental data, as is shown in diagrams of figure 1. By means of the distribution functions (6) the formula for the mean ionization frequency (8) is then obtained. With (9) the ionization coefficient is given and with (11) the derivation coefficient as a function of the cross section of ionization and of the cross section of inelastic processes is given. The diagrams of figure 2 show the experimental values compared with theoretical

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puted by formula (11) there is good agreement. After determining the parameters of the discharge the critical frequencies may be determined according to formula (12). In the second part of this paper the critical field strength according to relation (1) is computed by using the results of the first part. The results of the above calculations are characterized in the diagrams of figure 1 for helium, neon, argon, krypton, and xenon. The computed results are compared with the experimental results determined together with V. G. Abramova. There are 4 figures and 10 references. 6 of 3000 and Soviet.

ASSOCIATION: Leningradskiy politekhnicheskoy institut im. M. I. Kalitanskogo
(Leningrad Polytechnic Institute named M. I. Kalitanskogo)